## **CLAIMS**

1. An image-capture event monitoring method comprising the steps of:

V - 6 - V - 1

- (a) receiving, from multiple different sources, image-capture event notifications and
  deriving from each notification a location parameter indicative of where an image-capture event has occurred;
  - (b) using said location parameters to associate image-capture events into one or more clusters; and
- (c) analysing a said cluster of image-capture events in dependence on at least one furtherparameter of each event.
  - 2. A method according to claim 1, wherein in step (c) said at least one further parameter comprises a time indicative of when a said event occurred.
- 15 3. A method according to claim 2, wherein the time indicative of when a said event occurred is provided by one of:
  - a timestamp generated at the time of image capture by apparatus effecting the image-capture event, the timestamp being included in the image-capture event notification;
- a timestamp indicative of the time of transmission of the image-capture event notification from the corresponding source;
  - the time of receipt in step (a) of the corresponding image-capture event notification.
- 4. A method according to claim 2, wherein step (c) comprises determining the current rate of occurrence of image-capture events for a cluster and generating an alert when a threshold value for this rate is reached.
  - 5. A method according to claim 4, further comprising:
  - receiving, from a requestor, a request to be informed when the rate of occurrence of image-capture events increases to said threshold value, and
- passing to the requestor any alert generated in respect of a said cluster that lies within said area.

- 6. A method according to claim 5, wherein said area is centred on a location provided by the requestor along with, or separately from, said request.
- 7. A method according to claim 4, wherein said rate of occurrence is measured in terms of5 the number events occurring in the cluster per day.
  - 8. A method according to claim 4, wherein said rate of occurrence is measured in terms of the number events occurring in the cluster in a time period that no greater than ten minutes.
- 9. A method according to claim 2, wherein step (c) comprises producing, for a said cluster, an activity profile representing the rate of occurrence of events with respect to their time of occurrence.
- 10. A method according to claim 2, wherein step (c) comprises determining a periodicity15 in the time of occurrence of events of a said cluster.
  - 11. A method according to claim 10, wherein said periodicity is one of:
  - a daily periodicity;

- a weekly periodicity;
- 20 a monthly periodicity;

. 30

- an annual periodicity
- 12. A method according to claim 10, wherein step (c) further comprises analysing a determined periodicity to detect any apparent artificial constraints on the time of occurrence of said image-capture events.
  - 13. A method according to claim 10, wherein step (c) further comprises determining whether the events of a said cluster for which a periodicity has been determined are concentrated in narrow time windows of each cycle of the determined periodicity, and where this is the case, generating an alert to indicate an upcoming or just commencing said time window predicted for a current cycle of said periodicity.

- 14. A method according to claim 13, further comprising:
- receiving, from a requestor, a request to receive any alerts generated in respect of any cluster within a certain area, and
- passing to the requestor any alert generated in respect of a said cluster that lies within said area.
- 15. A method according to claim 14, wherein said area is centred on a location provided by the requestor along with, or separately from, said request.
- 16. A method according to claim 2, wherein step (c) comprises making successive determinations of a centre of accretion of events to a said cluster, and inferring movement of a subject of said image-capture events where the centre of accretion is determined to be changing in a non-random manner.
- 15 17. A method according to claim 2, wherein events over a predetermined age are discarded at least for the purposes of step (c).
- 18. A method according to claim 2, wherein for the purposes of step (c), events over a predetermined age are given reduced weight as compared to other events of the same20 cluster.
  - 19. A method according to claim 1, wherein in step (c) said at least one further parameter comprises the direction of image capture associated with a said event, this direction being included in the corresponding notification.

: . . . .

- 20. A method according to claim 19, wherein in step (c) the directions of image capture of individual events of said cluster are used to determine the location of a potential subject of at least a group of events having convergent directions of image-capture.
- 21. A method according to claim 20, wherein step (c) includes correlating a said potential subject location with features of a map of the vicinity of the cluster thereby to identify a map feature as a candidate subject for the image-capture events.

- 22. A method according to claim 19, wherein in step (c) the direction of image capture of individual events of at least one group of events having convergent directions of image-capture, are used in conjunction with a map of the vicinity of the cluster under consideration to determine a candidate subject of said image-capture events.
- 23. A method according to claim 21, including the further step of determining the URL of a website about said candidate subject by lookup or search based on the location or a map-derived name of the candidate subject.

5

· · · · · ·

- 24. A method according to claim 22, including the further step of determining the URL of a website about said candidate subject by lookup or search based on the location or a map-derived name of the candidate subject.
- 25. A method according to claim 19, wherein in step (c) the direction of image-capture of individual events of said cluster are used in conjunction with a map of features in the vicinity of the cluster to determine a characteristic of the location of the cluster.
- 26. A method according to claim 1, wherein in step (c) said at least one further parametercomprises a source identifier.
  - 27. A method according to claim 26, wherein said source identifier is a user ID included in the corresponding event notification.
- 28. A method according to claim 26, wherein said source identifier is an ID of image-capture apparatus effecting the image-capture event concerned, this ID being included in the corresponding event notification.
- 29. A method according to claim 26, wherein step (c) comprises identifying events having 30 the same source identifier.

- 30. A method according to claim 1, wherein in step (c) said at least one further parameter comprises a camera setting value.
- 31. A method according to claim 30, wherein said camera setting is focus distance.

20

- 32. A method according to claim 1, in which results of the analysis carried out in step (c) are sent to a remote party in response to an information request.
- 33. An image-capture event monitoring method comprising the steps of:
- capturing an image and causing at least the location of image capture to be made available substantially immediately to a service system;
  - at the service system, carrying out steps (a) to (c) according to claim 1.
  - 34. A service system for monitoring image-capture events, the system comprising:
- an input interface for receiving, from multiple different sources, image-capture event notifications and for deriving from each notification a location parameter indicative of where an image-capture event has occurred;
  - a data store for storing data derived from said event notifications;
  - a first processing arrangement for using said location parameters to associate imagecapture events into one or more clusters; and
    - a second processing arrangement for analysing a said cluster of image-capture events in dependence on at least one further parameter of each event.
- 35. A system according to claim 34, wherein the said at least one further parameter in dependence upon which the second processing arrangement is arranged to carry out its analysis of said cluster, comprises a time indicative of when a said event occurred.
- 36. A system according to claim 35, wherein the time indicative of when a said event occurred is provided by a timestamp included in the corresponding image-capture event notification, the input interface being arranged to store this timestamp and the second processing means being arranged to receive the timestamp from the data store as required for carrying out its analysis of the corresponding event cluster.

- 37. A system according to claim 35, wherein the time indicative of when a said event occurred is the time of receipt of the corresponding image-capture event notification, the system including a time-indication arrangement for providing an indication of this time of receipt to the second processing arrangement.
- **38.** A system according to claim 35, wherein the second processing arrangement is arranged to determine the current rate of occurrence of image-capture events for a cluster and to generating an alert when a threshold value for this rate is reached.

15

5

- 39. A system according to claim 38, further comprising a request handler for receiving, from a requestor, a request to be informed when the rate of occurrence of image-capture events of any cluster within a certain area reaches said threshold value, the request handler being arranged to pass to the requestor any alert generated in respect of a said cluster that lies within said area.
- **40.** A system according to claim 38, wherein the second processing arrangement is arranged to determine said rate of occurrence in terms of the number events occurring in the cluster per day.

- 41. A system according to claim 37, wherein the second processing arrangement is arranged to determine said rate of occurrence in terms of the number events occurring in the cluster in a time period that no greater than ten minutes.
- 25 **42.** A system according to claim 35, wherein the second processing arrangement is arranged to produce, for a said cluster, an activity profile representing the rate of occurrence of events with respect to their time of occurrence.
- 43. A system according to claim 35, wherein the second processing arrangement is arranged to determine a periodicity in the time of occurrence of events of a said cluster.
  - 44. A system according to claim 43, wherein said periodicity is one of:

- a daily periodicity;
- a weekly periodicity;
- a monthly periodicity;
- an annual periodicity

**45.** A system according to claim 43, wherein the second processing arrangement is further arranged to analyse a determined periodicity to detect any apparent artificial constraints on the time of occurrence of said image-capture events.

46. A system according to claim 43, wherein the second processing arrangement is further arranged to determine whether the events of a said cluster for which a periodicity has been determined are concentrated in narrow time windows of each cycle of the determined periodicity, and where this is the case, to generate an alert to indicate an upcoming or just commencing said time window predicted for a current cycle of said periodicity.

15

47. A system according to claim 46, further comprising a request handler for receiving, from a requestor, a request to receive any alerts generated in respect of any cluster within a certain area, the request handler being arranged to pass to the requestor any alert generated in respect of a said cluster that lies within said area.

20

**48.** A system according to claim 35, wherein the second processing arrangement is arranged to make successive determinations of a centre of accretion of events to a said cluster, and to infer movement of a subject of said image-capture events where the centre of accretion is determined to be changing in a non-random manner.

- **49.** A system according to claim 35, wherein the system is arranged to discard events over a predetermined age at least for the purposes of the analysis which the second processing arrangement is arranged to effect.
- 30 **50.** A system according to claim 35, wherein the second processing arrangement is arranged to give events over a predetermined age a reduced weight as compared to other events of the same cluster.

- 51. A system according to claim 34, wherein the said at least one further parameter in dependence upon which the second processing arrangement is arranged to carry out its analysis of said cluster, comprises the direction of image capture associated with a said event, this direction being included in the corresponding notification.
- **52.** A system according to claim 51, wherein the second processing arrangement is arranged to use the direction of image capture of individual events of said cluster to determine the location of a potential subject of at least a group of events having convergent directions of image-capture.
- **53.** A system according to claim 52, wherein the second processing arrangement is arranged to correlate a said potential subject location with features of a map of the vicinity of the cluster thereby to identify a map feature as a candidate subject for the image-capture events.
- 54. A system according to claim 51, wherein the second processing arrangement is arranged to use the direction of image-capture of individual events of at least one group of events having convergent directions of image-capture, in conjunction with a map of the vicinity of the cluster under consideration, to determine a candidate subject of said image-capture events.
- 55. A system according to claim 53, further comprising a third processing arrangement for determining the URL of a website about said candidate subject by lookup or search based on the location or a map-derived name of the candidate subject
- **56.** A system according to claim 54, further comprising a third processing arrangement for determining the URL of a website about said candidate subject by lookup or search based on the location or a map—derived name of the candidate subject

57. A system according to claim 51, wherein the second processing arrangement is arranged to use the direction of image-capture of individual events of said cluster, in

30

· ', ',

5

10

15

20

conjunction with a map of features in the vicinity of the cluster, to determine a characteristic of the location of the cluster.

- 58. A system according to claim 34, wherein the said at least one further parameter in dependence upon which the second processing arrangement is arranged to carry out its analysis of said cluster, comprises a source identifier.
  - 59. A system according to claim 58, wherein said source identifier is a user ID included in the corresponding event notification.

10

- **60.** A system according to claim 58, wherein said source identifier is an ID of image-capture apparatus effecting the image-capture event concerned, this ID being included in the corresponding event notification.
- 15 **61.** A system according to claim 58, wherein the second processing arrangement is arranged to identify events having the same source identifier.
  - 62. A system according to claim 35, wherein the said at least one further parameter comprises a camera setting value.

- 63. A system according to claim 62, wherein said camera setting is focus distance.
- 64. A system according to claim 34, further comprising a request handler for sending results of the analysis carried out by the second processing arrangement to a remote party25 in response to an information request.